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(56) Documents cited  
**GB 2124618 A GB 2078744 A GB 2050411 A  
GB 2041963 A EP 0279457 A2 EP 0214055 A1  
EP 0200620 A1 EP 0187702 A1 WO 88/04315 A1**

(58) Field of search  
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(54) **Cosmetic cleansing composition**

(57) The invention comprises a method for removing oily soil and make-up from the skin and hair, and optionally delivering a secondary benefit, involving treatment with a concentrated aqueous surfactant composition which is substantially free of non-polar oils which on subsequent dilution into water during rinsing generates liposomes.

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CLEANSING COMPOSITIONFIELD OF THE INVENTION

This invention relates to a cosmetic cleansing composition, in particular a cosmetic cleansing composition that is useful for example for the removal from the skin or hair of other cosmetic compositions, in particular oil based make-up compositions such as lipstick, or for the removal of oily soil from skin or hair, and a method therefor. The invention is accordingly concerned with the provision of a cosmetic cleansing composition which has improved properties over the prior art in terms of its ability to remove make-up compositions from the skin or hair, the condition of the skin or hair after use of the make-up remover, and optionally also its ability to deliver to the skin or hair other agents, such as benefit agents.

BACKGROUND AND PRIOR ART

Make-up removing compositions are generally known in the art. Typically, they may comprise a composition which contains a high proportion of an oily substance, in order to dissolve make-up components, which are typically of a hydrophobic nature. However, the problem with make-up removing compositions of this type is that they tend to leave an oily residue on the skin, and these residues themselves can be very difficult to remove from the skin. As a result, the skin may be left with an undesirably oily, greasy texture. Often it is necessary to provide a further treatment to the skin, such as a detergent wash.

Solid or aqueous surfactant compositions, particularly soap solutions, are also commonly used for make-up removal. However, it is a generally perceived disadvantage of these that the surfactants used in these compositions tend to be fairly harsh, in order to be effective in the removal of the make-up. As a result, there tends to be an excessive drying out of the skin for the user.

It is according with the avoidance of these disadvantages, in

particular improving the condition of the skin after the use of the make-up remover, that this invention is concerned.

#### SUMMARY OF THE INVENTION

We have now discovered that by employing in a make-up removing composition a liposome-forming material, in particular a liposome-forming material which is relatively mild in its nature and preferably of natural origin, that the disadvantages of the prior art may be avoided. The make-up remover according to the invention is adept at removing all types of make-up from the skin, including lipstick, mascara, foundation, blusher, and eye shadow, especially oil based make-up compositions.

#### DEFINITION OF THE INVENTION

Accordingly, the invention provides a method for removing oily soil and make-up from the skin and hair, and (optionally) delivering a secondary benefit, involving treatment with a concentrated aqueous surfactant composition which is substantially free of non-polar oils, which on subsequent dilution into water during rinsing generates liposomes. Preferably, the concentrated aqueous surfactant composition comprises a lamellar phase or a concentrated liposomal dispersion.

#### DISCLOSURE OF THE INVENTION

The invention is concerned with an improved make-up removing composition, comprising an effective amount of a concentrated aqueous surfactant composition which solubilises the make-up or oily soil when it is applied to the skin or hair, and which conveniently comprises a lamellar phase or a concentrated liposomal phase. The composition can then conveniently be removed by washing it away with water, at which time liposomes are formed. A particular advantage of this system is that the liposome-forming material can be used to deliver to the skin or hair a benefit agent, such as for example a moisturiser, as well as acting to remove the make-up or oily soil.

#### The Liposome-Forming material

A suitable liposome-forming material comprises one or more amphiphilic molecules in an aqueous medium. The system may be either structured or amorphous. Conveniently, the structure is based on layers of surfactant molecules intercalated by layers of water (thereby forming a lamellar liquid crystalline phase), which may be either a singular phase

system, or a multiphase system containing droplets of lamellar phase (liposomes) dispersed in the excess water.

Preferably, the amphiphilic molecules are present in the aqueous medium at a total concentration of 5 - 50% by weight of the total composition, more preferably 5 - 30%, even more preferably 10 - 25%.

Any amphiphile or combination of amphiphilic molecules capable of forming liposomes may be used. Known liposome-forming amphiphiles include for example those disclosed by J.H.Fendler in "Membrane Mimetic Chemistry" (Wiley-Interscience, New York, 1982)

or those disclosed by J.N.Weinstein and J.D.Leserman in Pharmac. Ther. 1984, 24, 207-233. Particularly suitable molecules tend to have a roughly cylindrical molecular geometry (in which hydrophilic headgroup and the hydrophobic tail have roughly equal cross-sectional areas), which allows them to pack into planar bilayers.

Further examples of amphiphiles which may be used alone or in combination include;

- Phospholipids from natural sources, such as lecithin from egg yolk or soya bean, and synthetic analogues of these, e.g. phosphatidyl choline, phosphatidyl serine, phosphatidyl ethanolamine, phosphatidyl inositol, and phosphatidic acid.

- Other polar lipids of natural or synthetic origin, e.g. ceramides from skin or brain, or synthetic analogues, cholesterol, or cholesterol sulphate.

- Unsaturated fatty acids, with a suitable choice of counterion and pH, e.g. oleic and linoleic acids in a Tris-HCl buffer at pH 8-9.

- Non-ionic surfactants, such as linear and branched chain alkyl polyoxyethylene and polyglycerol ethers, such as for example described in French Patent FR 2,315,991 (L'Oreal), and combinations of alkyl, alkenyl and alkaryl polyoxyethylene ethers, e.g. diethyleneglycol oleyl ether and decaethyleneglycol oleyl ether in equimolar ratio.

- Anionic surfactants with two hydrocarbon chains, e.g. dicetyl phosphate, di-2-ethylhexyl sulposuccinate; phosphates and diphosphates derived from phospholipids as disclosed in EP 370,491 (Kao), and single chain anionics in combination with cosurfactants, e.g. sodium dodecyl sulphate plus dodecanol.

-Cationic surfactants, e.g. dimethyl distearyl ammonium chloride.

-Bola-amphiphiles which have two hydrophilic groups separated by a hydrocarbon chain and form "monolayer membranes", e.g. dimer acids as described in J.H.Fuhrhop, W.Kaufmann and F.Schambil, Langmuir, 1985, 1, 387.

Particularly preferred amphiphiles comprise naturally derived phospholipids, such as soya lecithin. An example of such a material is Natipide II (Trade Mark), a liposome concentrate manufactured by Nattermann Phospholipid GmbH. This material comprises 20% phospholipid (mainly soya lecithin), which has been found to be a suitable material, along with 16% ethanol (primarily as a preservative), as an aqueous solution. The Natipide II formulation has a gel-like consistency.

The mechanism by which the amphiphilic material works is not totally understood. However, it is thought that when the material is present as a liposome concentrate, it is in fact probably present as a lamellar liquid crystalline phase containing dispersed liposomes. This lamellar phase will inherently have both hydrophobic and hydrophilic regions, so it can be regarded as both oil- and water- continuous. In the presence of oil (such as for example found in the make-up to be removed), or oily soil, the oil-continuous regions of the applied amphiphilic system are able to swell up and solubilise the oil or oily soil at a low level within the lipid bilayer of the amphiphilic material, and at higher levels as discrete droplets dispersed in the lamellar phase. When the make-up or oily soil is actually removed from the skin or hair by washing with water, liposomes are formed as the amphiphilic material "wraps - up", thereby allowing the oil to be rinsed away.

#### Added Ingredients and Benefit Agents

A further advantage of such amphiphilic systems according to the invention is that they may be capable of delivering to the skin or hair a benefit agent. These benefit agents may be either oil-soluble or water-soluble, the water-soluble benefit agents being encapsulated within the aqueous interior of the liposome whilst the oil-soluble benefit agents are solubilised in the lipid bilayer. Such benefit agents may include for example;

-Action by the amphiphilic molecules themselves; the amphiphilic

molecules which form the liposomes are able to deliver a moisturisation benefit by repairing or reinforcing the natural permeability barrier presented by lamellar lipid structures in the stratum corneum (see for example US 3,957,971 (Lever Bros. Co.)).

-Skin moisturisers, humectants, and other small water-soluble molecules such as sodium chloride, glycerol, sorbitol, butanediol, glucose, sucrose, trehalose, urea, pyrrolidone carboxylic acid, lactic acid and other  $\alpha$ -hydroxy acids.

-Polysaccharides and their derivatives, for example hyaluronic acid, chitin, and chondroitin sulphate.

-Proteins, peptides and amino acids.

-Enzymes, hormones and other extracts from animal or plant tissue.

-Sunscreens, such as for example 2-ethylhexyl-p-methoxycinnamide (Parsol MCX).

-Antibacterial agents, for example benzoic acid, ethyl lactate, triethyl citrate, and 2,4,4'-trichloro-2'-hydroxydiphenylether (Triclosan).

-Tanning agents, for example dihydroxyacetone, glyceraldehyde, erythrulose, and tartaric aldehyde.

-Anti-oxidants, such as  $\alpha$ -tocopherol or ascorbic acid.

-Retinoids and retinoid derivatives, such as for example retinol, retinol acetate, retinol palmitate, and other materials such as described in FR 8811469, GB 2,187,455, GB2,164,648, and EP 360,637 (L'Oreal), EP 350,846 (Hoffman LaRoche), and WP 89/00151 (Molecular Design Inc.).

-Anti-Perspirants.

Advantageously, when the liposome-forming material is applied to the skin, as the oil on the skin surface is picked up by the liposome-forming material so the benefit agent is released to the skin surface. In any event, it is widely believed that substances can be applied to the skin in an advantageous manner using liposomes, since it is believed that by being in the form of a liposome that the benefit agent is introduced to the lower levels of the skin in a more effective manner.

#### Cosmetically acceptable vehicle

Compositions according to the invention may be delivered to the skin or hair in any acceptable vehicle, for example in the form of lotions,

creams, emulsions, gels, pastes, or shampoos. The composition may additionally comprise further ingredients to improve its cosmetic acceptability, for example thickening agents, ethanol, perfume oils, dyes, or preservatives.

Claims

1. Method for removing oily soil and make-up from the skin and hair, and (optionally) delivering a secondary benefit, involving treatment with a concentrated aqueous surfactant composition which is substantially free of non-polar oils which on subsequent dilution into water during rinsing generates liposomes.
2. Method according to claim 1 wherein the concentrated aqueous surfactant solution comprises a lamellar phase or a concentrated liposomal solution.
3. A make-up removing composition for topical application to the human skin, comprising an effective amount of a liposome-forming material in a cosmetically acceptable vehicle.
4. Use of a liposome-forming material in a make-up remover.



**Patents Act 1977**  
**Examiner's report to the Comptroller under**  
**Section 17 (The Search Report)**

Application number 9027837.5

**Relevant Technical fields**

(i) UK CI (Edition K ) C5D

(ii) Int CI (Edition 5 ) C11D

**Databases (see over)**

(i) UK Patent Office

(ii) Online database: WPI

**Search Examiner**

D S Lucas

**Date of Search**

25 February 1991

Documents considered relevant following a search in respect of claims

1 to 4

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
X	GB 2124618A (NRDC) - see particularly line 39 on page 5 to line 16 on page 6	1 to 4
X	GB 2078744A (L'OREAL) - see particularly Example A11 and Claims 16 and 23	1 to 4
X	GB 2050411A (L'OREAL) - see particularly Claim 1 and the Examples	1 to 4
X	GB 2041963A (RORER) - see particularly Claim 1 and the Examples	1 to 4
X	EP 0279457A2 (KAO) - see particularly line 31 on page 2 to line 7 on page 3 and Tables 3 and 4	1 to 4
X	EP 0214055A1 (ADIR) - see particularly Claim 5 and the Examples	1 to 4
X	EP 0200620A1 (L'OREAL) - see particularly Claim 1 and the Examples	1 to 4
X	EP 0187702A1 (SYNTEX) - see particularly line 3 on page 2 line 30 on page 3 and Examples 23 and 24	1 to 4
X	WO 88/04315A1 (WICKFORD) - see particularly Claim 1	1 to 4

Category	Identity of document and relevant passages	Relevant to claim(s)

#### Categories of documents

**X:** Document indicating lack of novelty or of inventive step.

**Y:** Document indicating lack of inventive step if combined with one or more other documents of the same category.

**A:** Document indicating technological background and/or state of the art.

**P:** Document published on or after the declared priority date but before the filing date of the present application.

**E:** Patent document published on or after, but with priority date earlier than, the filing date of the present application.

**&:** Member of the same patent family, corresponding document.

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